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State of the Park Report 2011

Wapusk National Park of Canada



Executive Summary

The purpose of a State of the Park Report (SoPR) is to report to Canadians on the current state of the national park. This SoPR describes the current health of Wapusk National Park (Wapusk). It is an assessment of the park based on research and monitoring, and includes Aboriginal and local traditional user perspectives on their relationship with the park. The assessment includes an overview of how well the Parks Canada Agency is protecting ecological and cultural resources, facilitating visitor experience opportunities, and enhancing public appreciation and understanding. In addition, this report highlights park achievements and corporate performance and identifies key issues.

This is the first SoPR for Wapusk National Park. This report offers an opportunity to examine the successes and challenges of park management decisions that were taken in the Wapusk National Park Management Plan (Parks Canada 2007a). The SoPR provides a context piece for both Aboriginal and traditional local use, in addition to an overview of First Nations and local perspectives related to the health of the land and their relationship with Parks Canada. With its comprehensive overview of the state of the park, the report is a key tool in the upcoming review of the park’s management plan that will commence in 2011.

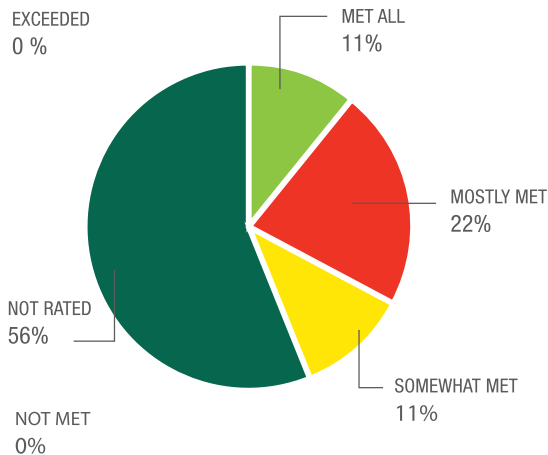


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Figure 1: Polar bears in Wapusk National Park.

Located on the western shores of Hudson Bay in northeast Manitoba, Wapusk National Park lies in the transition zone between taiga and tundra. Wapusk is Cree for “white bear”, the park’s iconic species (Figure 1). A ten-member cooperative management board that consists of representatives from the Government of Canada, Province of Manitoba, Town of Churchill, York Factory First Nation and Fox Lake Cree Nation makes recommendations to the Federal Minister responsible for Parks Canada on matters related to planning, management and operation of the park.

FIGURE 2
Rating for Wapusk National Park in Achieving Parks Canada Agency’s 2007-08 Corporate Plan Expectations.



The State of the Park Summary (Table 1) provides an overview of the report with the ‘state of’ indicators for resource conservation, visitor experience, and public appreciation and understanding. Due to insufficient information, the condition and trends could not be ranked for many of the indicators. Many park monitoring programs are in their early stages or have not yet been established, which limits the ability to report on the state of the park. A review of the ecological integrity monitoring program including the identification of priority indicators and measures is planned for the future which will reflect updated direction from Parks Canada.















Wapusk has worked to meet Parks Canada Agency’s performance expectations, set-out in the 2007-2008 corporate plan (Parks Canada 2007b). The park operated under interim management guidelines from

1996 to 2007 and baseline information is only now being developed. Many performance expectations are not rated (Figure 2) due to the relatively recent establishment of the park.

In addition to the Agency’s overall performance expectations, performance goals and actions specific to Wapusk were outlined in the 2007 park management plan. Good progress in meeting these expectations has occurred.

A summary of key issues is presented at the end of the report, based on the assessments in each of the preceding sections. The key issues are: expanding habitat impacts by lesser snow geese affects other wildlife; the changing arctic climate; and expensive and challenging access for visitor opportunities and local users.









TABLE 1
State of the Park Summary

INDICATOR	STATE	RATIONALE
Resource Conservation – Ecological Integrity		
Wetlands		The condition of the wetlands is not rated as these measures are likely to change as the monitoring program is refined. At present two of four measures related to lesser snow geese are rated as fair; nesting density and extent of habitat degradation, while nest phenology and reproductive success are classified as being in good condition. Permafrost and shrub density and height are currently not rated.
Tundra		The tundra indicator is not rated as there is only one measure. Further monitoring is required to fully assess the snowpack measure in the tundra indicator.
Forest		The forest measure of fire is considered to be in good condition following a natural burn cycle with limited suppression. However, as this is the only measure monitored, the condition of the forest indicator is not rated.
Freshwater		The freshwater indicator is not yet rated as the monitoring program is currently in development. Overall surface area of water in the park and number of lakes has decreased with the greatest change observed in coastal fen regions and small ponds across the park.
Marine		Ecological thresholds for three of the measures used to assess the health of this indicator have not been established but they are supported by thirty years of statistical analysis. The current condition for the marine indicator is fair based on long-standing research, with a declining trend.
Coastal		The coastal indicator is not ranked as there is only one measure related to Canada goose productivity.
Species at Risk		There are four species in the park listed on Schedule 1 of the <i>Species at Risk Act</i> that were assessed. Information on many of these species is limited therefore further monitoring is required before an assessment can be made.
Resource Conservation – Cultural Resources		
Resource Condition		Overall, buildings and structural remains, and documented objects are in good condition, and the condition of archaeological sites is fair. Landscape and landscape features are not rated; a formal inventory and evaluation of cultural landscapes is required.
Selected Management Practices		The park has a good foundation and preliminary work is complete; however a more comprehensive and robust program, and products need to be developed to improve cultural resource management practices.
Visitor Experience (Trend)		
Visits		Visitation has increased approximately 1.6% over the past five years. Park visitors include clients of the three licensed tour operators, university and high school students, media and participants in unique tourism initiatives. A Visitor Experience Assessment is planned for 2011.
Learning		Due to the remoteness of the park and low visitor numbers, on-site interpretation is limited (<100 people/year). Learning has not been formally measured.
Enjoyment		Park visitors who have submitted comment forms (i.e., University of Manitoba students, Figure 3) have noted high levels of enjoyment and satisfaction. However, this indicator is not rated as there has not been a formal visitor survey.
Satisfaction		Visitors who have participated in student programs or special visits have expressed very high levels of satisfaction and enjoyment. This indicator is not rated as information has come from limited audiences.
Meaning		Connection to place, the measure for this indicator, is new to Parks Canada and has not yet been measured at Wapusk.

INDICATOR	STATE	RATIONALE
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Public Appreciation and Understanding		
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Appreciation and Understanding	N/R	The Visitor Centre, located in Churchill's train station, is the focal point for outreach efforts. Approximately 7,400 people visit the centre each year as part of their visit to Churchill. Other outreach education initiatives have been reactive, based on invitations to schools or events.
Support	N/R	A strategic stakeholder engagement plan is not in place. However, there are diverse opportunities for stakeholder involvement, and the site has excelled in collaborating with researchers and tour operators.

CONDITION			TREND				
							
Good	Fair	Poor	Not rated	Improving	Stable	Declining	Not rated

Note: Refer to the glossary for definitions related to condition and trend.



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Figure 3: Students from the University of Manitoba at a hunting blind in Wapusk National Park.

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1

Introduction

The State of the Park Report (SoPR) is an integral component of Parks Canada's planning and reporting cycle. By providing a snapshot of the state of the park at a given point in time, the SoPR summarizes the park's achievements in meeting its performance expectations, as well as its contribution to achieving the Agency's strategic goals. This information is then used to identify key issues facing the park for consideration in management planning. A new SoPR is prepared every five years, thereby renewing the management planning cycle. This is the first SoPR for Wapusk National Park (Wapusk).

The SoPR also serves as a communications tool, helping to inform decision makers within Parks Canada, such as the Chief Executive Officer, and to communicate the state of the park to stakeholders and the general public. The contents of the SoPR can be used to initiate discussions about important issues affecting the park at the onset of the development of a new or amended management plan.

1.1 PARK DESCRIPTION

Located on the western shores of Hudson Bay in northeast Manitoba, Wapusk lies in the transition zone between taiga and tundra. This area is recognized nationally and internationally for its significant biological diversity, containing important habitats and populations of birds, plants and the iconic polar bear. Wapusk means "white bear" in Cree. As a result of isostatic rebound – the rising of the land following the last glacial period at a rate of approximately 80 centimetres per century – the park contains some of the youngest land in Canada. Wapusk protects a representative sample of the Hudson-James Lowlands natural region of Canada (Figure 4).

The 11,475 km² national park was created in 1996 from a portion of the lands within the Cape Churchill Wildlife Management Area (WMA), which had been established by the Province of Manitoba in 1978 to manage and protect wildlife and its habitat. Wapusk is bordered by Hudson Bay on the

north and east and by the Churchill WMA on the west and south (Figure 5). The park complements the habitat and management regime of the provincially designated WMA.

Wapusk is a wilderness park within a region often described as the "accessible north", with its western boundary only 40 km from the Town of Churchill. Located 1,000 km north of Winnipeg, Churchill has air, rail and cruise ship access, and is an internationally renowned destination to view polar bears in the fall. Other activities include birding (spring), whale watching (summer) and cultural exploration of nearby iconic national historic sites. Even so, Wapusk is remote. There is no direct road access and little infrastructure to support visitor activities. People visit the park through licensed commercial tour operators focused mainly on polar bear viewing, or through scenic helicopter over-flights.



Figure 4: Numerous wetlands in Wapusk.

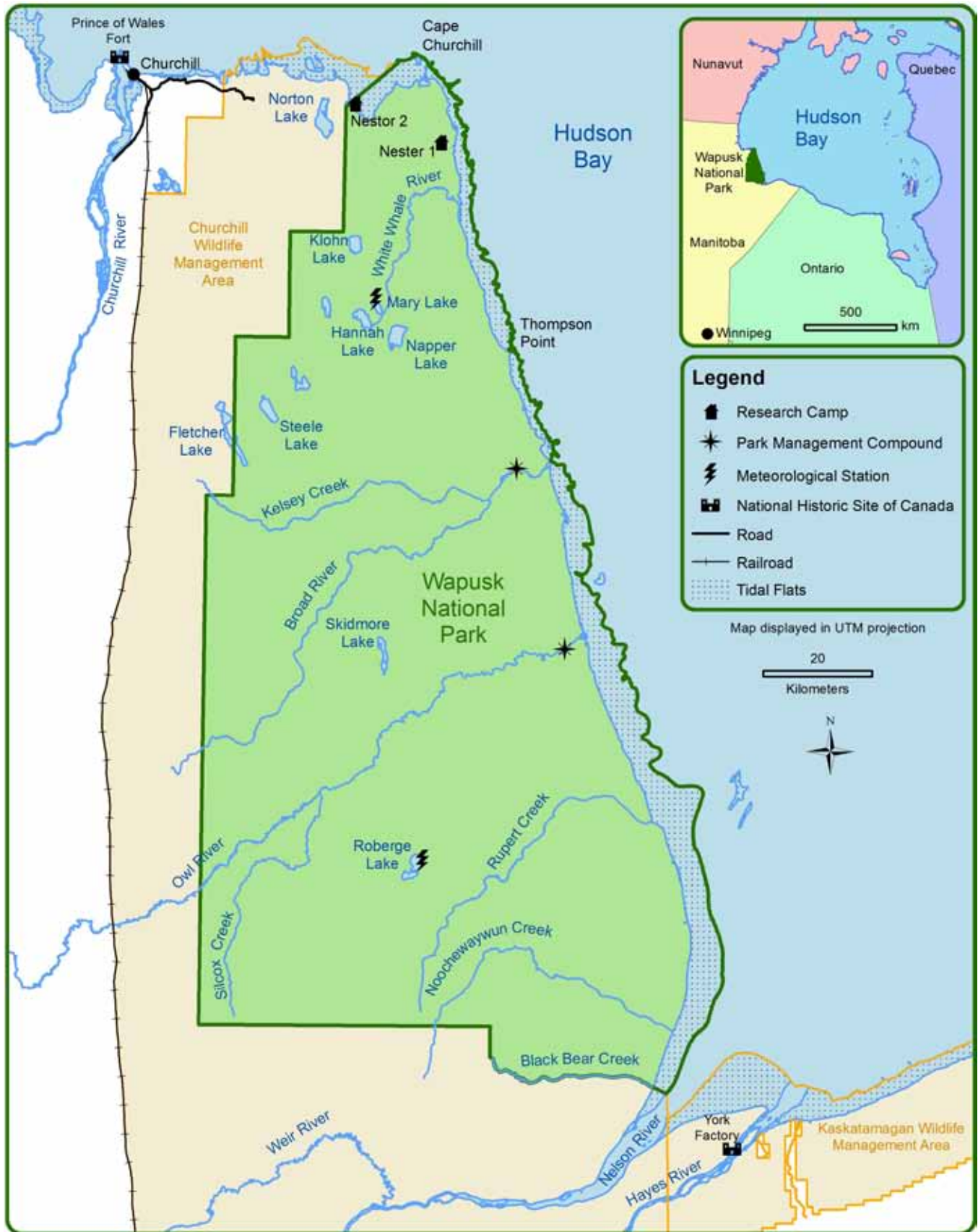


Figure 5: Regional map of Wapusk National Park.

2

Aboriginal and Local Perspectives

Aboriginal people have used the land and resources in the Wapusk area for thousands of years. There is also a long history of contact between Aboriginal and European people since the late 17th century when the Hudson's Bay Company influenced the economy of the region characterized by resource harvesting and fur trapping for trade. Local people; Aboriginal and non-Aboriginal, continue to use the land and its resources. The 1996 Wapusk Park Establishment Agreement specifies that: 1) the park is to be managed in the context of its adjoining lands, and 2) the residents of the area should continue to have access to the park lands (Environment Canada and Manitoba Natural Resources 1996). Within the Agreement, Aboriginal people and specified non-Aboriginal beneficiaries are included in the definition of 'residents' with continued access to land and resources within the park. Due to the special relationship that Parks Canada has with Aboriginal and traditional local users, perspectives from both groups are summarized in this section.

2.1 ABORIGINAL CONTEXT

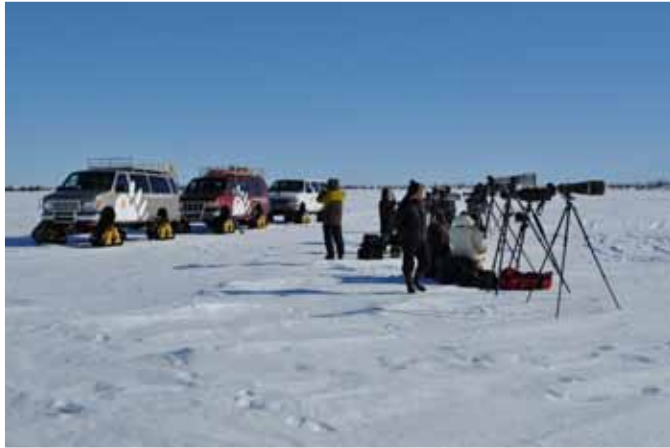
A number of communities in the area are home to Aboriginal people including Bird, Gillam, York Landing and Churchill. Bird, the home community of the Fox Lake Cree Nation is located approximately 270 km south of Churchill. The York Factory First Nation is situated at York Landing and is located approximately 350 km southwest of Churchill. Both of these communities have difficulty accessing this remote park. Churchill, home to a diverse Aboriginal population, is located approximately 40 km west of the park.

In 2011, nine Aboriginal people were surveyed¹ in Churchill to gather information on their perspectives regarding a number of questions that are of interest to Parks Canada. Efforts to survey Aboriginal members from the York Factory First Nation and Fox Lake Cree Nation were unsuccessful.

Due to the isolated location of the park and the distance that most Aboriginal people live from it, maintaining access to the park land is a challenge. Most Aboriginal people surveyed in Churchill tend to use the land located close to Churchill outside the park. Over half of the Aboriginal people surveyed felt that they didn't have a relationship with Parks Canada while one-third of them felt their relationship was good. It is clear that more effort needs to be put into developing this relationship and communicating with the local communities. Respondents suggested that Parks Canada could host workshops with elders, hold campouts and provide facilities that could be used as shelters to encourage youth to get on the land. Parks Canada has started to connect youth to the land through an annual youth leadership camp where a maximum of 15 youth are given the opportunity to travel to the park.

¹The survey instrument was in-person structured interviews.

Of the people surveyed, two-thirds were aware of an Aboriginal business operating in the park (Figure 6). Most respondents felt that there are opportunities for Aboriginal people to get involved in tourism activities. However, some assistance would be required in the form of grants/subsidies or expertise to encourage small tour operators to become established. Some Aboriginal people surveyed were also interested in employment opportunities with Parks Canada.



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Figure 6: Wat'chee Expeditions is an Aboriginal owned business operating in Wapusk.

It is unknown if visitors are being offered authentic Aboriginal cultural experiences as nearly all visitors are guided by third party operators. One of the tour operators is an Aboriginal-owned operation and their family has a long history of using the land including managing a family trapline.

Management of the park is supported by a ten-member cooperative management board, consisting of representatives from the Government of Canada, Province of Manitoba, Town of Churchill, York Factory First Nation and Fox Lake Cree Nation. The board make recommendations to the Federal Minister responsible for Parks Canada on the planning, management and operation of the park. Although there is Aboriginal representation on the Wapusk Management Board, recently there have been challenges with formalising appointments to the Board and achieving meeting quorums.

2.2 TRADITIONAL LOCAL USER CONTEXT

Traditional local users were granted privileges through the Federal-Provincial Memorandum Agreement² for Wapusk National Park in recognition of their historic local use activities in the area prior to the establishment of the park. The agreement defines access and benefits for eligible individuals; at least 225 people qualify to be traditional local users. Activities like trapping and caribou hunting have a sunset clause of no later than 35 years from when the park was established (Environment Canada and Manitoba Natural Resources 1996).

At present, a limited number of people exercise traditional user privileges outlined in the park establishment agreement. Since April 24, 1996 a total of 62 traditional local use permits have been issued by Parks Canada to 25 different individuals. The numbers of traditional local users fluctuate as individuals move into and out of the community, or as qualified individuals are born or become deceased.

In 2010, a total of 18 people eligible to be traditional local users were surveyed³ to gather information on their perspectives and patterns related to local use activities, barriers to participating in these activities and their relationship with Parks Canada. Survey participants were asked about their general travel on the land, in addition to their use of the park.

The majority of the traditional local users who were surveyed described their relationship with Parks Canada as good. However, there were a few individuals that did have concerns with Parks Canada's management approach and the way things were implemented. When participants were asked to identify what Parks Canada can do to help people maintain a connection to the land, there were no clear solutions or suggestions.

TRADITIONAL LOCAL USER DEFINITION

Section 14 of the Park Establishment Agreement defines traditional local users as any person who has resided:

- a) in the Local Government District of Churchill or in any settlement along the Canadian National Railway "Bay Line" from Bird northward;
- b) for at least five consecutive years within the period commencing 20 years prior to the date of the agreement, and;
- c) for at least six consecutive months at the time of making application to the Management Board for recognition as a "local user"

And any person who is a child of a person described above.

² Commonly referred to as the park establishment agreement.

³ The survey instrument was in-person structured interviews.

2.3 USE OF LAND AND RESOURCES

Aboriginal and traditional local users participate in various land and resource-based activities including: hunting caribou, moose, geese, ptarmigan and seals, fishing, snowmobiling, boating, 4-wheel quad riding, berry picking, bird watching and photography. Most people participate in these activities outside the park for a variety of reasons. The most significant barriers that prevent Aboriginal and traditional local users from travelling on the land in the park include: the distance to the park; high price of fuel; safety concerns; and a lack of knowledge of the land. Additionally, an aging population and a changing lifestyle have resulted in less time to participate in traditional activities. Respondents cited park-specific barriers that included the lack of accessible safe facilities and amenities; the distance to get to and travel within the park; restrictive management practices, rules and regulations by Parks Canada; and the lack of caribou in the park during hunting seasons.

For traditional local users, the 2010 survey found that most families have a history of travelling on the land and participating in harvesting activities in the area over an average of 25 years. Approximately 50% of those same people surveyed currently travel on the land. Aboriginal people surveyed had fond memories of being out on the land, however they are also travelling on the land less than in the past. Today people are using motorized vehicles in place of dog teams.

2.4 STATE OF THE LAND OBSERVATIONS

Overall, the Aboriginal people and traditional local users who were surveyed described the land and the wildlife as healthy and generally in good condition with some concerns identified. They have noticed fluctuations in species like foxes and increases in numbers of moose, polar bears, lesser snow geese and Canada geese. Big polar bears are no longer seen and bears are being encountered further inland. Fewer caribou (Figure 7) have been observed in the winter and the quality of fishing has declined. Changes related to weather have been noticed over time, following a trend of less snow with more variability and warmer winter temperatures. Warmer winters have shortened the season to travel across rivers and creeks. Hudson Bay also remains ice-free longer than it was in the past.

Aboriginal people identified the need to protect cultural resources in the park. They also highlighted the need to manage and monitor the use of helicopters, tundra vehicles and over-snow vehicles that facilitate human activities (i.e. visitors viewing bears, researchers) on the land. They also indicated Parks Canada needs to maintain a presence on the land to protect the land.



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Figure 7: Caribou are hunted by local Aboriginal people and Traditional Local Users.

3

State of the Park

3.1 CONTEXT

To determine the overall state of the park, the following performance areas were assessed: ecological integrity, cultural resources, visitor experience, public appreciation and understanding, and support. Each of these performance areas has one or more indicators each with specific measures that can help determine the overall condition and trend in the health of the park. For ecological integrity, cultural resources and visitor experience, the status of indicators and their associated measures are rated as good, fair, poor or not rated. Indicators and measures identified as 'Not Rated' are those where there is not yet sufficient evidence to determine change over time (trend) and those where thresholds have not yet been established to differentiate between states (condition).

Since this is Wapusk's first State of the Park assessment, this report establishes the baseline from which future measures may be compared. Additionally for this remote park, thresholds have been established for very few measures due to the lack of data or knowledge about the indicators or measures. Therefore, many of the indicators and measures are 'Not Rated', and establishing thresholds will be the focus of research and monitoring in the coming five-year period before the next SoPR.

In Wapusk, there are six ecological indicators, each with measures that are monitored to determine the ecological integrity of the park and greater park ecosystem: wetlands, tundra, forest, freshwater, marine and coastal. External researchers contribute significantly to the monitoring program for Wapusk, and summaries of their findings are included in this report, in addition to work led by Parks Canada. A review of the ecological integrity monitoring program including the identification of priority indicators and measures is planned for the future which will reflect updated direction from Parks Canada. Yellow rail (*Coturnicops noveboracensis*), rusty blackbird (*Euphagus carolinus*), common nighthawk (*Chordeiles minor*) and olive-sided flycatcher (*Contopus cooperi*) are four species at risk in Wapusk listed in on Schedule 1 of the Species at Risk Act (SARA), that were assessed.

The condition of cultural resources is measured through the use of two indicators: resource condition and selected management practices. Known cultural resources include sites associated with pre-contact Aboriginal occupation, the fur trade (both early fur trade and 20th century trapping) (Figure 8), government/military use, and scientific research. The in-situ remains include rock formations associated with Aboriginal occupation, fur trade artefacts, remains of 20th century trapping cabins and artefacts, as well as structures and debris associated with former military and research facilities.



Figure 8: Colonel W.H. Gilder's camp near the Hudson's Bay Company Goose House, 1887.

The state of visitor experience is measured by the following indicators: visits, enjoyment, satisfaction, learning and meaning. The traditional tool used to measure most of the indicators is the Visitor Information Program (VIP) survey. Due to the small visitation numbers and the challenges associated with conducting an entry/exit survey in a remote park, a specific VIP for Wapusk has not been done. Rather, a VIP was conducted in

2007 for Parks Canada sites in the Churchill region, including Wapusk and Prince of Wales Fort National Historic Site. This was an entry/exit survey hosted at the train station and airport; respondents may or may not have visited the park. Detailed visitor experience evaluations have been conducted for targeted populations from 2006 to present; these include entry and exit surveys from students participating in the University of Manitoba's field course (Figure 9), youth groups and participants of pilot tourism initiatives.

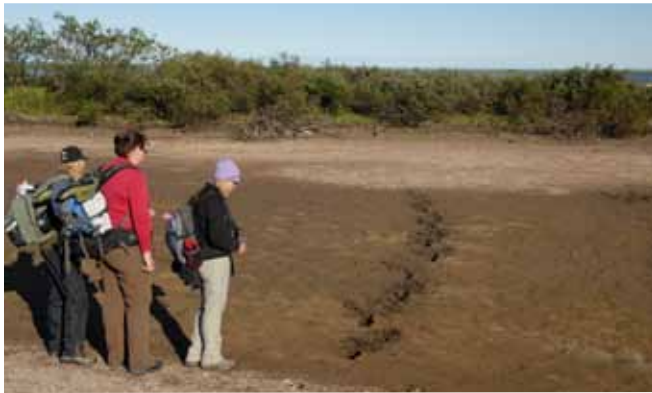


Figure 9: Students on the University of Manitoba field course based out of Nester One.

Public appreciation and understanding is measured on a national basis, with local park initiatives contributing to the results. Since VIPs have not been done specifically for Wapusk, the two indicators of appreciation and understanding, and support, are described but not rated. Information about the park's outreach education and stakeholder and partner initiatives are described, including several success stories.

3.2 STATE OF THE PARK N/R

The overall state of the park is the culmination of an assessment of a suite of measures for each of the indicators outlined above. The information provided is based on a combination of data, measures and expert assessment. A high-level report on the health of each indicator is provided in the following pages. Full summaries of the associated monitoring are available in the technical compendium supporting this State of the Park Report.

3.2.1 WETLANDS INDICATOR N/R

Wetlands cover 60% of the park. They are predominately peatlands, organic sedge and shrub fens. This large wetland complex has a unique ecology dependent upon permafrost conditions. The wetland indicator is not rated as two measures are not rated and the three ground-based snow goose measures may become one index in the future. A review of the ecological integrity monitoring measures for the wetland indicator is planned, which will reflect updated direction from Parks Canada.

MEASURE	STATE
Nesting Density	↓
Nesting Phenology	↓
Reproductive Success	↓
Extent of Goose Impact	↓
Changes in Shrub Height and Density	N/R
Permafrost	N/R

The Hudson Bay project (HBP), with a forty-three year research history in La Pérouse Bay, monitors and reports on three measures for lesser snow geese. Most of the nesting and foraging activity of shorebirds, lesser snow geese and Canada geese occurs along the broad band of coastal fens. Foxes and wolves take advantage of this nest abundance and den nearby on drier sites. The fourth measure, extent of goose impact is monitored in La Pérouse Bay and Thompson Point by the HBP but park-wide monitoring for this measure is also being carried out by Parks Canada under the ParkSPACE initiative. There is a remote sensing measure designed to detect change in shrub density and height. The final measure is focused on monitoring permafrost in the park.

Nesting Density – Nesting density provides a good surrogate for abundance of geese in a given area, because it is easily monitored and highly repeatable. Changes in nesting density over time reflect weather impacts on the nesting geese, as well as habitat conditions. As habitat becomes degraded, the geese disperse. Thresholds for the baseline data were based on data collected over the period of 1995 to 2005 from three locations in the La Pérouse Bay nesting colony. There is a highly significant downward trend over the entire time series (Figure 10). Thus, annual estimates are within the established thresholds (below the green zone categorized as good in one year since 2000). This indicates that fewer geese are nesting; but, more importantly that habitat has become degraded.

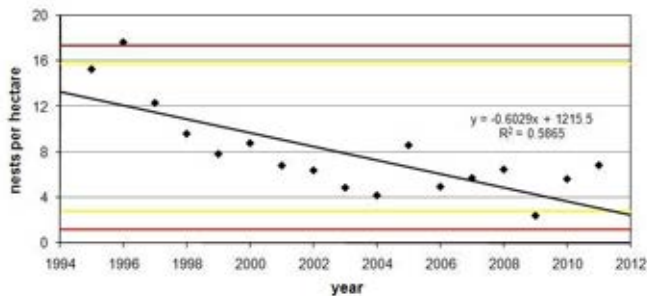


Figure 10: Nest density in the La Pérouse Bay snow goose colony. There is a highly significant downward trend over the entire time series. The baseline and boundaries are based on data from 1995-2005.

Nesting Phenology – Nesting phenology is monitored at the three nesting density sites and three additional sites, expanding the geographic coverage to as far south as Broad River. Nesting success of snow geese is higher in years when nesting is early in the season. Importantly, early nesting results in the geese spending more time in Wapusk before departing which intensifies the negative impact on forage plants. The mean hatch date was used as an annual measure of phenology for the colony; this information has been collected since 1969. The 43-year running average for mean hatch date is June 24. The long-term trend indicates a slight advance (i.e. earlier) in the hatching date, but the data falls within the range of variability of a measure that is considered in good condition.

Reproductive Success – The proportion of goslings among all geese captured during annual banding operations were calculated to monitor reproductive success. Although there are some annual effects of timing and weather, the proportion of goslings declines as the habitat becomes degraded. Late nesting years and harsh weather lead to a similar but less extensive effect. Years with higher reproductive success result in higher consumption of vegetation in the park. Monitoring since 1969 indicates there is a significant long-term decline in reproductive success that is coincident with increased habitat degradation (Figure 11). However, the measure is still rated as good.

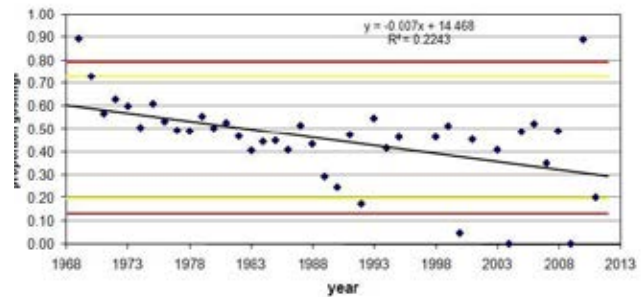


Figure 11: Reproductive success in the La Pérouse Bay snow goose colony. There is a significant long-term decline in reproductive success that is coincident with increased habitat degradation. The baseline and boundaries are based on 1969 to 2005.

Extent of Goose Initiated Land Degradation – As lesser snow geese have increased from 2,500 nesting pairs in the 1960s to over 50,000 nesting pairs today, the extent of goose initiated land degradation by snow geese in forage-rich ecosystems has increased significantly between 1973 when little area was affected and 2008 and now totals 9,146 ha. In severely affected ecosystems, all palatable vegetation has been removed (Figure 12), and the ecosystems are left as shallow ponds, bare soil, bare peat, or have been re-colonized by new plant species that were not part of the original ecosystems. The increasing area of habitat alteration follows trends in increasing snow geese populations, and in recent years the areas affected are increasing to the south and inland in the park. The ecosystems used by foraging snow geese provide potentially critical habitat for yellow rail, a species at risk, as well as important habitat for a broad range of other species including other waterfowl, songbirds, amphibians and mammals. The ongoing upward trend and the large area affected by snow geese foraging provides the rationale for rating this measure as fair with a downward trend.



Figure 12: *Puccinellia phryganodes* has recovered to a great extent in this 3-year-old inland enclosure.

© R.F. Rockwell

Changes in Shrub Density and Height – Through sub-pixel fractionation methods, satellite remote sensing data can be correlated with changes in shrub height and shrub density ('shrubbiness'). This correlation relies on the strong relationship among the remote sensing signal, leaf area index and observed changes in shrub height and density. Increases in shrubs is a trend seen across the North American Arctic, and these increases can be expected to affect a wide range of ecosystem properties including habitat structure, snow depth and active layer soil depth. This measure was not assessed at this time but will become a component of the wetland indicator in subsequent SoPRs.

Permafrost – Permafrost coverage is extensive within the park and is being monitored by assessing ground temperatures in permafrost wells (Figure 13) along two transects; one in the northern area of park and the other south of the Owl River. While indications are that a slight warming is underway, this measure can't be rated at this time. Currently no thresholds have been established to determine trend, as there are only four years of data.

Permafrost maintains the elevation of peat plateaus, which cover approximately half of the park. Thawing of this peat would result in transformation of lichen-dominated plateaus (bogs) to fen, eliminating polar bear denning habitat (establishment of Wapusk was in part to protect this sensitive habitat), and winter caribou forage, as well as hastening wetland drainage with the possible consequence of increased production of greenhouse gases (i.e. methane). As permafrost degrades, peat features will collapse, changing the wetland types and the vegetation growing there. Changes in permafrost are predicted to have an impact on fire in the park.



© Wendy Staden

Figure 13: Lightweight drill used for installing thermistor cables.

3.2.2 TUNDRA INDICATOR N/R

Tundra; consisting of low beach ridges formed by coastal processes and slowly rising after the last glaciation, covers 5% of the park. The landlocked sand, gravel and cobble ridges are separated by low sedge and willow fens. The ridges are exposed and dry with low-growing woody shrubs such as mountain avens, bearberry, Lapland rosebay, and buffaloberry, interspersed with low arctic sedges, grasses and lichens. The beach ridges function as a corridor for wildlife such as caribou, and contain evidence of human use. Due to the brief time in which monitoring has occurred on the tundra indicator, this indicator is not rated.

MEASURE	STATE
Snowpack	N/R

Snowpack - Snowpack is measured through snow cover, depth and density. Snow is on the ground from October to June; blowing off the tops of the ridges and depositing in hollows behind ridges and tree islands. Snow affects soil, plant and animal components of the ecosystem. Snowmelt is also the main source of wetland, pond and lake recharge. The current prediction for Wapusk is that with warming temperatures, snow in the Hudson Bay region will increase in amount but have a shorter duration. This has implications for permafrost warming and could potentially accelerate the rate of permafrost degradation. By insulating against heat loss, snow can affect the soil nutrient cycling and plant production. Mid-winter snowpack measurements have been collected for four years at the Mary Lake and Roberge Lake meteorological stations, and along transects at Broad River and Owl River. The short record is insufficient to establish preliminary condition, thresholds or trends.

3.2.3 FOREST INDICATOR N/R

The forest landscape, covering 13% of Wapusk, is best described as forest-tundra, a transition zone between the boreal forest and arctic tundra. The 'forest' is characterized by low but variable tree cover and an open canopy that is interspersed with areas of open tundra (i.e. scattered stands of trees on drier sites and 'islands' of trees on the open tundra). The forest-tundra is an important ecosystem component within Wapusk providing winter habitat for the Cape Churchill caribou herd and denning habitat for polar bears. Changes in permafrost condition within Wapusk are predicted to have an effect on the forest indicator. The state of the forest is currently measured by fire; the forest indicator cannot be rated at this time due to the lack of additional measures.

MEASURE	STATE
Fire	↔

Fire – The fire measure is rated as having a good condition and stable trend. Fire is assessed based on Area Burned Condition Class (ABCC), a condition monitoring measure which provides a comparison of expected area burned to actual area burned within a defined period (50 years). The ABCC is based closely on the fire cycle concept and assesses the degree of departure from historic or reference area burned levels within a park (Parks Canada 2010a). Fire is an important ecosystem process and has the potential to alter vegetation composition and the depth of the active soil layer. Fire is known to significantly impact polar bear maternity den sites, by decreasing the stability of the dens resulting in their collapse and degradation of surrounding habitat. Recent fire monitoring work has been conducted using Landsat imagery and climate data from 1960 to 2009 (Parks Canada unpublished data). The results found that 6.34% of the park, mostly in the southwest portion of the park was burned (Figure 14), which is within the 0%-33% threshold for a good rating. As fire is not suppressed in Wapusk but continues as a natural process, the trend is considered stable.



© Tom Woodcock

Figure 14: View along the relict beach ridge near the southwestern boundary of the park.

3.2.4 FRESHWATER INDICATOR N/R

Within Wapusk, shallow lakes and ponds (Figure 15) are abundant, totalling 10% of the park. Drainage across the Hudson Bay Lowlands is very poor, due to the low relief and permafrost (frozen ground). As a result, countless thermokarst (thaw) lakes are scattered across the area. These freshwater lakes are important ecologically, as they provide crucial habitat for waterfowl, shorelines for polar bear dens and support a diversity of other plant and animal life. The freshwater indicator is not yet rated as the monitoring program is currently in development.

MEASURE	STATE
Water Chemistry	N/R
Trophic Status	N/R
Lake Ice	N/R
Surface Water Change	N/R

Water chemistry – Water chemistry has large impacts on the biological and physical processes in lakes, and can be strongly influenced by climate and other environmental stressors. Conductivity, pH, nutrients and ions were analyzed across a set of lakes in the park to assess water quality. There is considerable variability in environmental conditions in Wapusk, with large differences related to salinity and the concentration of dominant ions. Because of the considerable variability in water conditions, and the lack of historical data, it is not currently possible to establish thresholds or trends. A set of lakes that span these environmental gradients is being sampled annually, and will be used to monitor changes in ecological integrity.



© Jon Sweetman

Figure 15: Thousands of lakes and ponds occur in the park.

Trophic Status – Trophic status is a measure of the productivity of lakes. Monitoring changes in the abundance of chlorophyll a (the primary photosynthetic pigment in all algae) is the most common method of assessing trophic status. In 2008, chlorophyll values for 92 lakes and ponds across the park ranged from 0.67 - 37.48 $\mu\text{g}\cdot\text{L}^{-1}$, (mean of 6.72 $\mu\text{g}\cdot\text{L}^{-1}$). These values range all the way from very poor to extremely rich in productivity. The majority of sites within the coastal fen region are considered poor or moderately rich, whereas lakes in the interior peatland-plateau bog and spruce forest areas were more productive, primarily classified as moderately to very rich (Figure 16). Because there is considerable variability in chlorophyll a values, and due to the lack of historical data for this measure, it is not possible to establish thresholds or trends at this time.

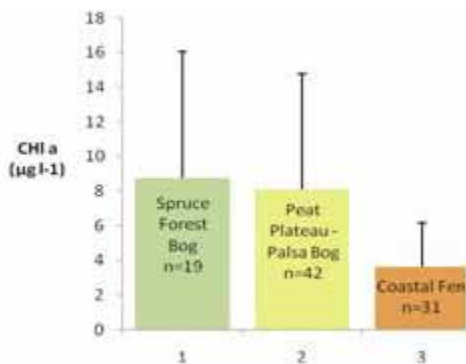


Figure 16: Graph of Chlorophyll values from major landscape units within the park. Lakes in the interior spruce forest bog and peat plateau bog areas are on average more productive than lakes in coastal fen areas.

Lake Ice – Timing of ice breakup and the length of ice cover are highly influenced by climate change which will have a significant impact on lake ecosystems, including changes in physical, chemical and biological processes. In 2011, monitoring will begin using synthetic aperture radar remote sensing imagery to identify changes in the timing of breakup in lakes in spring and ice formation in the fall. No results are available at this time and this measure is not rated.

Surface water change analysis - Thousands of shallow lakes and ponds cover the landscape of Wapusk National Park. These water bodies are important habitat for a variety of plants and animals, but they are susceptible to drying up due to increased evaporation driven by climate warming. In addition to potentially drying up, lakes and ponds in the park may also undergo rapid drainage as the frozen ground (permafrost) beneath them melts. In order to understand how the size, abundance and distribution of freshwater lakes and ponds in the park has changed, satellite images from 5 separate years (1984, 2001, 2005, 2006 and 2010) have been compared. Between 1984 and 2010, the overall surface area of water in the park decreased by 5,536 ha (5.22%), and the total number of lakes decreased by 1,158 ha (12.23%). However, considerable variability was observed among the five years in total surface water area and total number of lakes / ponds. As a result, the status and trend of this measure is not yet rated. Future analyses of additional satellite images, along with hydrological studies looking at possible factors causing this variation across the park are being undertaken.

3.2.5 MARINE INDICATOR

The climate of Hudson Bay is cold compared to other geographic regions of similar latitude due to the seasonal ice cover (Rouse, 1991). Although much of the Hudson Bay marine ecosystem occurs outside of Wapusk, its proximity to this large body of water and associated ice cover influences both physical and biological attributes of the park. While polar bears are dependent on and spend much of their lives out on the sea ice of Hudson Bay hunting and feeding on seals, most will spend approximately four months and pregnant females up to

eight months onshore after the sea ice has melted completely. Although ecological thresholds for three of the measures used to assess the condition of this indicator have not been established as defined by Parks Canada, the ratings are supported by thirty years of statistical analysis. The current condition for the marine indicator is fair, with a declining trend. A review of the marine indicator is planned based on updated direction from Parks Canada and current measures may be combined into an index, one for sea ice and one for polar bears.

MEASURE	STATE
Date of Sea Ice Break-up	
Sea Ice Concentration	
Abundance of Western Hudson Bay Polar Bear Subpopulation	
Body Condition of Adult Females with Cubs-of-the-Year	

Date of Sea Ice Break-up – A seasonal sea ice cover on Hudson Bay is a critical component of the Arctic marine ecosystem. Species in this environment are sensitive to changes in sea ice extent and duration. Highly specialized species, such as polar bears, are particularly vulnerable as they depend on sea ice as a feeding platform especially in the spring to hunt ringed seals, their primary food source. The long-term trend in the date of sea ice break-up (Figure 17) indicates that it is occurring progressively earlier. Break-up has advanced approximately 4.8 days/decade over the period 1971-2010. The date of sea ice break-up is assessed as declining based on this highly significant trend.

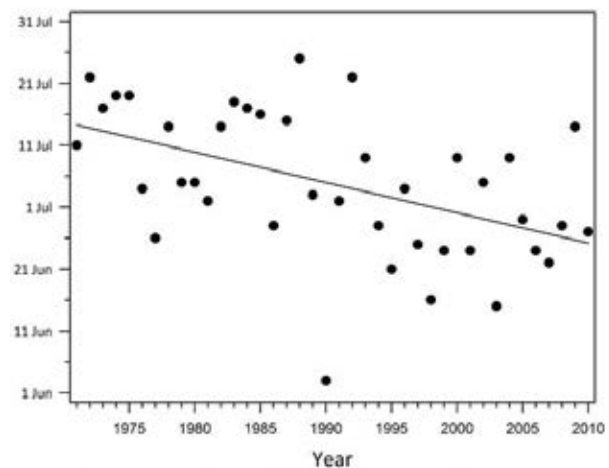


Figure 17: Date of sea ice break-up on western Hudson Bay in relation to year, 1971-2010 (Stirling et al. 1999; Stirling and Parkinson 2006; and Environment Canada unpublished data).

Sea Ice Concentration – The sea ice concentration measure consisting of spatial extent and seasonal stability focused on sea ice break-up (mid-June to mid-August) and formation (late October to end of November). This is a critical period when polar bears transition between marine and land habitat; the earlier that sea ice disappears, the less time they are able to hunt and feed on seals which can impact their body weight. Median weekly sea ice concentrations (%) and trends of sea ice change (%/year) were calculated and compared for two periods 1979-1995 (the past years) and 1996-2010 (the recent years; since park establishment). Within the geographic range of the Western Hudson Bay Polar Bear Population, the results reveal that average sea ice concentrations were 24.5% in recent years compared to 37.9% in past years. Sea ice is now melting earlier and faster. In past years, break-up occurred on average around the week of July 2-8. Using this week as a reference, a significant trend in sea ice concentration showed a 40% decline (1979-2010) a loss of 1.25% per year. During the formation stage, sea ice froze later and slower in recent years compared to past years, with average concentrations of 18.9% and 37.8%, respectively. In past years, freeze-up occurred on average around the week of Nov. 12-18. Using this week as a reference, no significant trend for freeze up was detected between 1979 and 2010. The status of sea ice concentration is therefore poor with a declining trend.

Abundance of the Western Hudson Bay Polar Bear Subpopulation

– Abundance estimates for the Western Hudson Bay polar bear subpopulation were unknown until the early 1990s. Prior to this, annual harvest of 50-100 bears by Aboriginal hunters and an unknown number taken by military personnel during the 1940s and 1950s likely kept the size of the subpopulation low. Manitoba game regulations (1954), the closing of York Factory (1957), and the withdrawal of military personnel (1964) significantly decreased hunting pressure which resulted in the numbers of bears being seen in and around Churchill increasing during the 1960s. The first abundance estimate (1978-1992) was considered conservative at 1,000 ± 51 bears. This estimate was increased to 1,200 bears for management purposes. In 1995, the first re-assessment of abundance resulted in an estimate of 1,200 ± 250 bears. The most recent re-assessment in 2004 was 935 ± 72 bears. Subsequent population analysis through 2010, using abundance estimates, reproductive parameters and harvest rates indicate a continued decline. The condition of this subpopulation of polar bears is considered to be fair with a declining trend based on over 30 years of data by Environment Canada.

Body Condition of Adult Females with Cubs-of-the-Year

– Most of the fat reserves that polar bears depend upon during their onshore period are acquired by hunting seals on the sea ice during the spring. Adult female polar bears will use these fat reserves not only for their own subsistence but also to produce milk for their young. Thus, the amount of a mother’s fat reserves influences the quantity of milk, which in turn influences cub

growth and survival. Research by Environment Canada (Stirling et al. 1999; Stirling and Parkinson 2006; and Environment Canada unpublished data) has shown that over the past 31 years, there has been a significant decline in the body condition measure of adult females accompanied by cubs-of-the-year (Figure 18). Consequently, this measure is assessed as fair, with a declining trend.

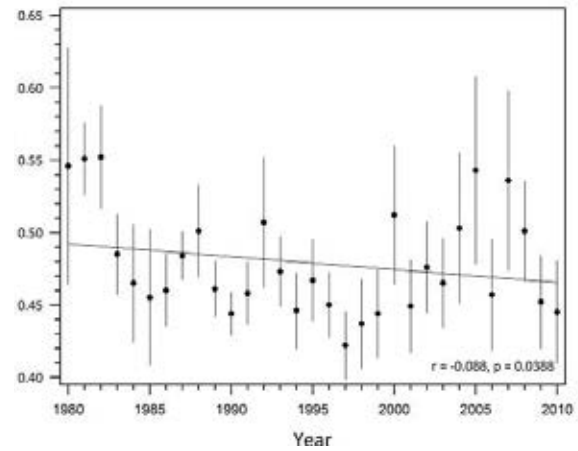


Figure 18: Means (●) and 95% confidence intervals (I) of the body condition index of adult female polar bears, accompanied by cubs-of-the-year, captured onshore in north-eastern Manitoba, 1980-2010.

3.2.6 COASTAL INDICATOR N/R

The coast which covers 5% within Wapusk consists of tidal flats, river estuaries, gravel and coarse sand beaches, salt marshes and coastal fens. Isostatic rebound, a low-lying marshy coastline and large tides contribute to expansive tidal flat areas. Little information has been collected on the zooplankton and invertebrate productivity of the intertidal zone within the park but in general, productivity in the coastal ecosystem of the Hudson Bay is low compared to other temperate ecosystems. Coastal fens are interspersed with small ponds that are surrounded by bands of willow, providing nesting and foraging habitat for waterfowl such as Canada geese and many species of shorebirds. The coastal beaches provide “daybeds” for polar bears. During the short summer, caribou are observed out on the shallow tidal flats escaping the heat and bugs and seals are often observed in the estuaries of the Owl and Broad Rivers. The coastal indicator has not been rated as there is only one measure and, since research on this measure ceased in 2011 due to other priorities by the Mississippi Flyway Council the future use of this measure is uncertain.

MEASURE	STATE
Productivity	N/R

Productivity - Canada goose reproduction has been monitored at the Nester One research station from 1976 through 2010, as part of the management and research coordinated through the Mississippi Flyway Council. The monitoring measures collected on Eastern Prairie Population (EPP) Canada geese are annual estimates of productivity (nest density, clutch size, nesting success) and breeding phenology. The number of goslings produced per unit area is estimated as a function of three measures; nest density, clutch size and nest success. Recent estimates of gosling production (Figure 19) have been in the mid- to high 20s (per square kilometre), with periodic failures (“busts” in reproduction, e.g., 2004 and 2009) (Mississippi Flyway Council unpublished data).

Since the mid 1990’s nest density has remained stationary or increased slightly in 14 nest areas that are searched. Clutch size in Canada geese (Figure 20) has been stable. Since 1976, nest success has averaged slightly over 50%, although with high annual variation, in part related to breeding phenology. Thresholds for this measure haven’t been established to date by waterfowl and park managers, therefore trend and condition can’t be rated at this time.

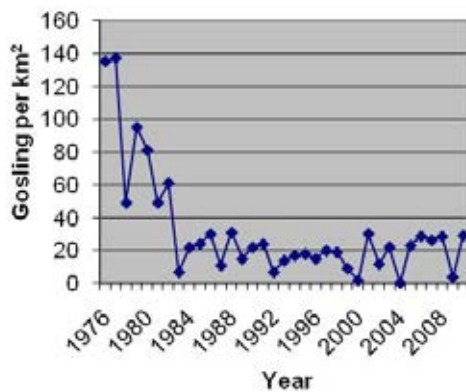


Figure 19: Estimated number of Canada goose goslings produced per km² at Nester One from 1976 through 2010.



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Figure 20: Eastern Prairie Population Canada goose goslings.

3.2.7 SPECIES AT RISK N/R

In addition to maintaining and restoring ecological integrity, Parks Canada strives to protect and recover species at risk. In Wapusk there are four species listed on Schedule 1 of the federal Species at Risk Act (SARA) that were assessed: yellow rail (*Coturnicops novboracensis*), rusty blackbird (*Euphagus carolinus*) (Figure 21), common nighthawk (*Chordeiles minor*) and olive-sided flycatcher (*Contopus cooperi*). Three species listed under Schedule 1 of the Species at Risk Act were not assessed in this section. There is insufficient data and evidence required to complete detailed assessments for Ross’s gull (*Rhodostethia rosea*) and ivory gull (*Pagophila eburnea*) and the polar bear (*Ursus maritimus*) was only recently added to Schedule 1 of the SARA. Parks Canada is not responsible to lead the development of management or recovery plans for any of the species listed above.



© Christian Artuso

Figure 21: Rusty Blackbird.

In the case of yellow rail, rusty blackbird, olive-sided flycatcher and common nighthawk, little is known about occurrences of these species in the park. Access to remote sections of the park is limited and therefore no Breeding Bird Survey routes and no Breeding Bird Atlas survey work have occurred in the past. Most bird observations have been confined to areas accessible on foot from the two research camps (Nester One and Nester Two) which are both located in the north end of the park near the coast and are not representative of inland habitat.

Detailed information on recorded occurrences for the four assessed species in the park is outlined below, while the status of each of these species is detailed in Table 2.

- Yellow rail have been heard calling near the Nestor Two camp in the past but there are no mapped occurrences and no nest locations. Information suggests that preferred habitat of the yellow rail has been impacted by lesser snow goose foraging (Rockwell et al. 2009, Public Works and Government Services Canada 2009).
- There are four mapped occurrences of rusty blackbird. This species is described as fairly common (Rockwell et al. 2009).
- The olive-sided flycatcher has no mapped occurrence in the park and observations have high locational uncertainty.
- There are two separate observations of common nighthawk on the Owl River within burn areas, with similar habitat found south of the Owl River.

There is no status assigned for the indicator, as half of the species that were assessed (two of four) have a SARA managed area (MA) ranking of unknown (Table 2), therefore not meeting the criteria for a condition rating. In addition, current data is insufficient to establish trends for the four species. More information over time in the MA ranks for Wapusk will allow future reporting on the results of monitoring and recovery efforts.





TABLE 2
Detailed information about the four assessed species within Wapusk listed under Schedule 1 of the Species at Risk Act.

SPECIES	SARA DESIGNATION	MA RANK	TREND	COMMENTS
Yellow Rail	Special Concern	MA1 (Critically Imperilled)	N/R	This species is critically imperilled due to the small number of observations and high threat level to habitat due to lesser snow goose damage in the park.
Rusty Blackbird	Special Concern	MA3 (Vulnerable)	N/R	This species is described as fairly common within the park and there are no known threats. Extent of preferred habitat is not adequately defined and no extensive searches have been conducted throughout the park.
Olive-sided Flycatcher	Threatened	MAU (Unrankable)	N/R	Little is known about this species as there is little systematic survey work conducted for the entire park. Observations have been scattered.
Common Nighthawk	Threatened	MAU (Unrankable)	N/R	Little is known about this species as no survey has been completed to determine the extent of this species within the park.

*An internationally standardized system of rankings is used to assess the status of species at risk within managed areas (MA), such as the park. Ranks range from critically imperilled (MA1) to secure (MA5). If not enough is known about the species, a rating of unknown (MAU) is applied. These rankings are applied to each species in Table 2.

3.2.8 CULTURAL RESOURCE CONDITION

Cultural resource condition is assessed using four measures: landscape and landscape features, buildings and structural remains, archaeological sites, and objects. The overall rating for this indicator is fair and stable. Since the number of archaeological sites in WNP is substantial, this measure's rating has been given more weight in the overall rating for the indicator.

MEASURE	STATE
Landscape and Landscape Features	
Buildings and Structural Remains	
Archaeological Sites	
Objects	

Landscape and Landscape Features – Historically, the most distinctive landscape features related to cultural use are the exposed beaches that run parallel to the Hudson Bay Coast. They served as transportation corridors and contain many of the known cultural resources. To date, efforts to locate specific historic trails have not proven successful. The sites along the beach ridge are currently being managed as independent entities and are addressed below. This measure is not rated, as a formal inventory and evaluation of cultural landscapes has not been conducted.

Buildings and Structural Remains – A total of 18 structural remains have been evaluated either as cultural resources or potential cultural resources. They primarily reflect 20th century trapping sites (Figure 22) or military and scientific research activities. The historic value of the structural remains does not rest with specific architecture features; instead it is their location on the land and the surrounding artefacts that tell the story of their evolution, function and the relationship of people to the land that is critical. In addition, they are valued for the evidence they show for re-using materials and common site selection processes through time. Value also rests in their former or, in some instances, current use as expressed by the artefacts surrounding the remains. At least three sites are still actively used by local residents.

Only one of 18 structures (Morris Spence's Old Cabin) has been identified as being in poor condition, having high vulnerability as it is being impacted by ice push from the river. The remaining structures have not been identified as facing a direct threat; as such, the overall rating is good and stable.



Figure 22: Hunting / trappers cabin in Wapusk.

Archaeological Sites – Archaeological sites include sub-surface and surface sites containing features, artefacts and foundation remains (not structural components) (Figure 23). Forty-seven verified sites are Aboriginal, with the majority pre-dating European contact, based on the presence of lithic materials. The sites reflect nomadic, periodic habitation on the land, with the main groups represented being Thule/Inuit, Dene and Cree. Six sites represent the fur trade era (early to 20th Century). Military and research activities account for four archaeological sites, including the remains of a nautical tower. To summarize the condition of all the archaeological sites, 8% are considered to be in poor condition, with 39% in fair and 53% in good condition. The overall condition of archaeological sites is fair based on the guidelines of the Parks Canada Condition Rating Guide for Cultural Resources (Parks Canada 2010b) and the trend is stable. Primary threats are from natural processes and areas currently receiving visitor use. Only sites in visitor use areas and sites where exposure from natural processes will substantially increase our understanding of the past will receive active monitoring.





Objects – Only three objects have been formally collected from Wapusk – three brass cartridges from a military camp south of Watson Point. Other objects may have been collected, but formal documentation does not exist. Overall rating of the three documented objects is good and stable as they are currently being managed and curated at Parks Canada's Western and Northern Service Centre's Winnipeg office.



Figure 23: Stone cairn or cache in Wapusk.

3.2.9 SELECTED CULTURAL RESOURCE MANAGEMENT PRACTICE

Selected management practices are evaluated using the basic practices of cultural resource management as defined in Parks Canada policy. The overall rating of selective management practices is fair and improving following staff training and with opportunistic monitoring now occurring. The rating is based on the results of four measures: inventory, evaluation, strategy and monitoring. The park has a good foundation and preliminary work is complete; however, a more comprehensive and robust program and products need to be developed to improve cultural resource management practices.

MEASURE	STATE
Inventory	
Evaluation	
Strategy	
Monitoring	

Inventory – A three-phase inventory and evaluation of archaeological sites and cultural resources began in 1998. The process included a background study, helicopter and ground surveys of targeted areas and a synthesis of information from archaeological surveys and historic research. Recommendations for future work are included in the final report (Carroll et al. 2001). Site information gathered during the study has been entered into a database. The initial inventory was well suited to the needs of park establishment but requires upgrading for operational needs. Inventory work is currently being done on an opportunistic basis by site staff. Until a more formal process is established, the rating is fair with an improving trend.

Evaluation – The Cultural Resource Value Statement (CRVS) is the main instrument used for cultural resource management in national parks. A preliminary working draft for Wapusk was developed (2010) to aid decision-making for park clean-up. The draft CRVS, developed as part of a 2009 workshop, identifies key historic themes and associative values for inventoried resources related to those themes. Efforts have been made to evaluate the resources in the park based on available information. Due to the lack of consistently established and applied criteria for cultural resource evaluation, the rating for this measure is fair with a stable trend.

Cultural Resource Management Strategy – A draft five-year plan has been developed to provide a basic framework for upgrading the inventory, evaluating the resources and developing monitoring protocols to aid in decision-making. The draft Cultural Resource Management Strategy fulfills basic requirements but does not address research activities, oral history requirements, community participation, nor does it provide

specific direction on the presentation of cultural resources to both visitors and the broader public. Based on these factors, the rating is fair with a stable trend.

Monitoring – A formal monitoring program has not yet been developed but is currently proposed as part of the five-year plan for cultural resource management in the park for 2011-2015. Staff have received training in recording and monitoring cultural resources. During the course of their regular activities, they review the cultural resources database for sites in the vicinity of their work and provide regular site condition updates to the database. Until a more formal monitoring program is implemented, the rating is fair with an improving trend.

3.2.10 VISITS INDICATOR

The Churchill region is a world-renowned destination for polar bear viewing and continues to gain popularity as a destination for beluga whale watching, arctic fauna, flora and birding. Each year between 10,000 and 15,000 people visit Churchill. In 2003, approximately 8% of these visitors ventured to see Wapusk. While situated only 40 kilometres east of Churchill, this park remains remote with no road access. Visitation either by helicopter or tundra vehicle tours to the park peaks in October and November, coinciding with the opportunity to see polar bears congregating along the shores of Hudson Bay. The 2007 Management Plan strongly recommends that visitors use the services of licensed tour operators for access to the park. Currently independent travel, apart from use by Aboriginal people and traditional local users, does not occur. The first Visitor Experience Assessment for the park is planned for late 2011.

Attendance – Established in 1996, Wapusk remains in the early stages of its development. As such, it presently has limited visitation. Park visitors include clients of the three licensed tour operators, students participating in high school and university courses, media, participants of unique tourism initiatives, as well as researchers. The summer season (July-August) attracts 2% of the year's visitation, winter (February- March) attracts 3% while the fall season attracts a resounding 95% of the visitation. Over the past five years with an average of 1,280 people per year, attendance has increased in the park by 1.6% (Table 3). Surprisingly, about 90% (approximately 1,100) of the visitors viewed the park by helicopter and did not actually set foot in the park.



MEASURE	TREND
Attendance	
Satisfaction-Information	

TABLE 3

Wapusk Visitor Attendance for 2006-2010.

	2006	2007	2008	2009	2010	CHANGE DURING REPORTING PERIOD
VISITORS	1,014	1,467	1,532	1,357	1,030	+1.6%
USER DAYS	1,811	2,359	2,372	1,943	1,935	+6.9%

Churchill regional tourism declined in 2009 and 2010 and this was also reflected in park visitation figures. New initiatives and pilot programs, like the Wapusk Youth Leadership Camp (Figure 24), heli-hiking tours and the Trip of a Lifetime visitor package created in collaboration with Variety, The Children’s Charity have created more opportunities for Canadians to visit the park. The 2010 construction of two modest multi-use facilities in bear-proof compounds for staff safety have the potential to support the development of new visitor opportunities in the park.



© Parks Canada

Figure 24: Students hiking at the Wapusk Leadership Camp.

Given the remoteness of Wapusk and that about 90% of visitors do not physically spend time on the ground in the park; the Parks Canada Visitor Centre in Churchill provides an important venue to communicate information about Wapusk to residents and visitors. Visitor Centre statistics are presented in the Appreciation and Understanding Indicator (Section 3.2.15).

Satisfaction with Information – This measure is not rated as it has not been accurately measured. The 2007 survey of Churchill visitors found pre-trip information came principally from the Churchill website, travel guides and the Parks Canada website (Resource Management Consulting Group 2008). During their stay, 40% of visitors did consult the Parks Canada brochure. Survey respondents noted they were well advised about polar bear safety precautions, with the majority receiving this information from their private tour operators.

3.2.11 LEARNING INDICATOR N/R

This indicator has three measures; learning, satisfaction with learning, and understanding of the message. No surveys have been conducted of Wapusk visitors to measure satisfaction with learning or understanding of the message, therefore this indicator has no rating.

Due to the remoteness of the park on-site park interpretation programs have been limited to specific groups (e.g. University of Manitoba) and tour operators (Figure 25) requesting park staff to present a specific topic or to accompany their tours. These opportunities only occur 1-2 times a year and reach a limited number of visitors (<100). The only other avenue for on-site interpretation in Wapusk has been park-based initiatives and pilots, such as the Wapusk Youth Leadership Camp and heli-hiking tours.

MEASURE	STATE
Learning	N/R
Satisfaction with Learning	N/R
Understanding of Message	N/R



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Figure 25: Frontiers North Adventures is one of the licensed tour operators in Wapusk.

3.2.12 ENJOYMENT INDICATOR N/R

Enjoyment has five measures; the extent of enjoyment, and satisfaction with facilities, services, activities and staff. This indicator is not rated as a visitor survey has not been conducted specifically for Wapusk and park services.

Extent of Enjoyment – A 2007 survey by Parks Canada of Churchill visitors identified a high level of satisfaction with their visit; however, respondents did not differentiate between a visit to the park and their visit to Churchill in general (Resource Management Consulting Group 2008). Certain park visitors (i.e. University of Manitoba students) have been targeted with exit surveys which consistently revealed very high levels of enjoyment (Brook et al. 2006; 2007; 2008; 2009; 2010).

MEASURE	TREND
Extent of Enjoyment	N/R
Satisfaction with Facilities	N/R
Satisfaction with Services	N/R
Satisfaction with Activities	N/R
Satisfaction with Staff	N/R

Satisfaction with Facilities and Services – The primary facility used by visitors and service offered is the Visitor Centre in Churchill, outside of Wapusk. The Resource Management Consulting Group (2008) that conducted the 2007 Churchill visitor survey found high levels of satisfaction with these facilities and services. Guest book comments continue to indicate a very high level of satisfaction with the quality of exhibits. The Visitor Centre has been used regularly for special events hosted in Churchill including presentations, banquets and other events to welcome celebrities and international dignitaries. Multi-use facilities in two areas of Wapusk have only recently been established. These facilities support staff for park management purposes, but have not yet been routinely used by visitors and are therefore not rated.

Satisfaction with Activities and Staff – Activities and tourism opportunities in the park are currently being investigated and developed; therefore, this measure has not been evaluated. The 2007 Churchill visitor survey found high levels of satisfaction with the quality of programs and staff at the Visitor Centre in Churchill (Resource Management Consulting Group 2008). Guest book comments continue to indicate a very high level of satisfaction. Exit surveys conducted by Parks Canada staff of 66 individuals from the University of Manitoba, Youth Leadership Program and the Variety Trip of a Lifetime all indicated a high level of satisfaction with activities and staff.

3.2.13 SATISFACTION INDICATOR N/R

A more targeted and formal survey is required with visitors who enter the park to measure this, therefore this indicator is currently not rated.

Satisfaction – overall – Overall satisfaction as indicated by the 2007 Churchill visitor survey (Resource Management Consulting Group 2008) is high, but as stated earlier, respondents did not differentiate between visiting Wapusk from their visit to Churchill. Visitors who have participated in student programs or special visits to Wapusk have all responded with very high levels of satisfaction and enjoyment.

MEASURE	TREND
Satisfaction – overall	N/R

3.2.14 MEANING INDICATOR N/R

Connection to place - The measure for the meaning indicator is new to Parks Canada and has yet to be measured. This measure will be incorporated into future surveys.

MEASURE	TREND
Connection to place	N/R

Of the Churchill visitors surveyed in 2007, 90% indicated they would likely recommend a visit to Churchill to their family and friends, with 78% saying they would be very likely to recommend a visit (Resource Management Consulting Group 2008).

3.2.15 APPRECIATION AND UNDERSTANDING INDICATOR N/R

The goal of this program activity is to reach out to Canadians through communication and education opportunities designed to increase awareness, understanding, and appreciation towards the natural and cultural heritage of Parks Canada. Though efforts have occurred in outreach education and working together with external partners, this reporting should be considered as the baseline upon which future results can be compared.

MEASURE	TREND
Outreach Education	N/R
External Communications	N/R

Outreach Education – The Parks Canada Visitor Centre in Churchill's historic train station (Figure 26) is the primary and most accessible location for visitors coming to Churchill to discover Wapusk. It is the focal point for interpretive and outreach efforts where the stories of the park's cultural and natural history as well as Parks Canada's role in protecting these resources are presented. The service offer includes interactive exhibits, audio-visual programs, lectures, tours, print materials and personal interaction with Parks Canada staff.



Figure 26: Parks Canada Visitor Centre and Administrative Office in Churchill.

TABLE 4

Parks Canada Visitor Centre Attendance Figures 2006-2010

	2006-2007	2007- 2008	2008-2009	2009- 2010	2010-2011
VISITORS	5,994	9,526	9,540	6,512	5,500

On average 7,400 people visit the Visitor Centre each year (Table 4) which represents one-half to two-thirds of the visitors to Churchill. During October and November, when visitor numbers peak due to polar bear viewing, the Visitor Centre receives 66% of its yearly visitation.

Outside of Visitor Centre programming, local and regional outreach education initiatives have been more reactive, based on invitations to attend school or community events. Participation is subject to staff availability and largely takes place between September and May while school is in session. Approximately 10 programs are delivered per year and reach approximately 160 students. Additionally, curriculum-linked educational materials for Wapusk are available on the Parks Canada website. A "webquest" activity aimed at grades 7-12 has received 1,469 visits since 2009 and a Wapusk fact sheet aimed at grades 5-12 received 1,872 visits in the same time period. Parks Canada also collaborates with the non-governmental organisation, Polar Bears International, supporting and participating in their seasonal webcasts at Cape Churchill in Wapusk, which are broadcast to international classrooms.

Parks Canada is developing a partnership with the Assiniboine Park Conservancy for outreach education of Wapusk through a new zoo interpretive exhibit "Journey to Churchill" in Winnipeg. This world-class exhibit will provide educational information and learning opportunities on polar bears and the range of habitat that supports their life cycle. The three-part exhibit has a design focus on the coastal region and denning areas of Wapusk.

External Communications – With the increased awareness of climate change and the fragility of the Arctic, there is growing interest in Wapusk. External communication supports this growing awareness. There is significant non-news media (film, photography, and print) interest in the Churchill area, as it is one of the most accessible places to view, photograph and film polar bears. The Churchill area and Wapusk are often the origin for polar bear images seen throughout the world. In 2010, there were two major film initiatives in the park, A Park for All Seasons (Oasis HDTV) (Figure 27) and the National Parks Project which were both broadcast nationally in 2011.



Figure 27: Filming 'A Park for All Seasons' with Dr. R.F Rockwell.

Communication efforts are currently targeted at known audiences, stakeholders and the Churchill and regional community via Wapusk News, a twice-yearly newsletter. Approximately 5,000 copies of the newsletter are distributed through the mail, locally for residents and visitors, and on the Parks Canada website. For the research community already linked with Wapusk, an annual report of research and monitoring activities is produced and shared.

3.2.16 SUPPORT INDICATOR N/R

Stakeholder and partner support have not been previously measured by Parks Canada for Wapusk and therefore this indicator is not rated. In 2009, Parks Canada launched a national survey of stakeholders and partners to gather baseline data and provide quantifiable insights into the state of support and engagement nation-wide. A strategic stakeholder engagement plan is not yet in place. While there are diverse opportunities for stakeholder involvement, the ability to offer a volunteer program is uncertain due to safety concerns and high transportation costs.

PARTNERS AND STAKEHOLDERS	
Categories	
Academic	48%
Business	25%
Government (municipal, provincial, federal)	17%
Not-for-Profit Organization	10%

The Wapusk National Park Management Board (Figure 28) is a key mechanism for Aboriginal, community, stakeholder and public involvement in decision making for the planning and operation of the park. The Board has been instrumental in providing input into policy development and management decisions. Moreover, key decisions are informed by stakeholders through on-going dialogue and topic specific consultations. Recent consultations have included fees, business licensing and commercial business opportunities. Regularly scheduled meetings also occur with the Town of Churchill's Mayor and Council, providing an opportunity for staff to report on current activities and the future direction of Wapusk, while soliciting input.

Wapusk National Park was created within the pre-existing Cape Churchill Wildlife Management Area. Many of the long-standing relationships with stakeholders from the scientific community that existed prior to the national park continue today. The research community has a strong presence and interest in Wapusk. The Churchill Science Symposium (Figure 29) is co-hosted by Parks Canada and the Churchill Northern Studies Centre to bring together scientific researchers working in and around Wapusk to share their research results with stakeholders, and identify future research and monitoring priorities. Research is shared more broadly through an annual report and the newsletter, Wapusk News, which also includes information on management actions and visitor experience opportunities.

Tourism is one of the primary industries in Churchill. Parks Canada is a member of Destination Churchill, a destination marketing organization that provides support to, and direction for the tourism industry in the region. Parks Canada is also a member of the Churchill Chamber of Commerce and participates in local community events and initiatives. Parks Canada's Visitor Centre and offices are located in the restored heritage railway station, a high-profile, high-traffic landmark of which the Churchill community is very proud.

While still developing new collaborative relationships, such as the outreach "Journey to Churchill" opportunity with the Assiniboine Park Conservancy, established partnering continues to provide new and expanded opportunities for Canadians and others to discover and develop a strong sense of connection to Wapusk:

- For seven years, the park has worked together with Manitoba Conservation and the University of Manitoba to support an annual student research camp. Students experienced first-hand the powerful spirit and management challenges of this wilderness park through an Arctic ethno-ecology course. The students' post-trip evaluations are helping guide the development of new visitor activities and services.
- Researchers from the Hudson Bay Project, Mississippi Flyway Canada Goose Research Project, Environment Canada, and other researchers facilitated and supported by the Churchill Northern Studies Centre conduct long-term research in the park. Examples include biological inventories and research and species monitoring of the Canada goose, lesser snow goose and polar bear. These long-standing projects have produced results that increase knowledge, shape management decisions and form the basis of interpretive and communication programs.
- Since 2005, Wapusk has collaborated with Polar Bears International (PBI), a not-for-profit advocacy group with a mandate to support research and promote education about polar bears. This collaboration has included Parks Canada staff teaching at PBI's International Youth Leadership Camp; co-presenting a fall lecture series in Churchill that attracts visitors and residents alike; and supporting researcher webcasts from Cape Churchill in Wapusk during the fall bear season that are broadcast to classrooms internationally.
- Parks Canada has a Memorandum of Understanding with Travel Manitoba for the purpose of promoting national parks including Wapusk, and national historic sites in Manitoba, to Canadian and international tourism audiences.



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Figure 28: The Wapusk Management Board meeting at Broad River in 2011.



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Figure 29: Joint session of the Churchill Science Symposium and the Parks and Protected Area Research Forum of Manitoba in January, 2011.

4

Performance Rating

In order to achieve its strategic outcome, Parks Canada identifies Agency-wide expected results and performance expectations for each program outlined in the Parks Canada Agency Corporate Plan (Parks Canada 2010c). This chapter reports the extent to which a park has achieved its park-level performance expectations that, contribute to the Agency's strategic outcome. These results will help improve or maintain the state of the park (Chapter 3) in areas that the Agency has an ability to influence.

4.1 STRATEGIC OUTCOME

Wapusk has succeeded in transitioning from a new park to one on its way to becoming a jewel in the national park system. By actioning items in the management plan, the park has made significant progress to establishing programs for monitoring and reporting of ecological integrity, gaining a better understanding of cultural resources and working towards the development and delivery of a visitor service offer (Figure 30).

4.2 PERFORMANCE RATINGS

For the reporting period of this SoPR, the guiding document used to set performance expectations was the Parks Canada Agency Corporate Plan 2007/08 - 2011/12 (Parks Canada 2007b). This section reports on the expectations that were monitored over the reporting period and a brief explanation of the results (Tables 5A, 5B and 5C).



Figure 30: Parks Canada Interpreter with visitor near the Hudson Bay coast.

TABLE 5A

Heritage Resource Conservation

PERFORMANCE EXPECTATION	RATING	RESULTS/ RATIONALE
National park management plans will be on schedule and consistent with management plan guidelines by March 2010.	Met All	The management planning cycle is on schedule. This SoPR initiates the management plan review process scheduled to be complete in 2012 and will be consistent with the new management plan guidelines.
Develop fully functioning ecological integrity monitoring and reporting systems for all national parks by March 2008.	Some-what Met	An ecological integrity monitoring program was established by March 2008. However, protocols need to be finalized and remote sensing measures and external research needs are not yet incorporated into the monitoring program.
Improve aspects of the state of ecological integrity in each of Canada's 42 national parks by March 2014.	Not Rated	Wapusk's ecological integrity monitoring and reporting program is primarily focussed on collecting baseline information. With little human activity in the park, opportunities to improve the state of ecological integrity in the park are limited. Environmental assessments are undertaken and are monitored to ensure adherence to program guidelines and policy.
Meet targets for five measures of environmental impacts of Parks Canada's operations: greenhouse gas emissions, petroleum storage tanks, contaminated sites, halocarbons and polychlorinated biphenyls (PCBs).	Mostly Met	Addressed fuel management issues through cleaning up old fuel caches and developing a fuel cache protocol. No petroleum storage tanks exist in park but there are a number of fuel caches. The one known contaminated site has been assessed as low risk and this site will be monitored over time. Solar energy is used whenever possible to support park infrastructure (Figure 31). Greenhouse gas emissions are minimized through the selective use of more environmentally friendly vehicles and equipment.
Improve the state of other cultural resources managed by Parks Canada by March 2014.	Mostly Met	An initial inventory of cultural resources is complete. Improvements are being made to the cultural resource management program.

TABLE 5B

Public Appreciation and Understanding

PERFORMANCE EXPECTATION	RATING	RESULTS/ RATIONALE
Develop indicators, expectations and protocols for measuring public appreciation and understanding of Canadians and stakeholders by May 2007.	Not Rated	No baseline information for this question has been established at the park level. Expectations for public appreciation and understanding are measured at a national level.

TABLE 5C

Visitor Experience

PERFORMANCE EXPECTATION	RATING	RESULTS/ RATIONALE
On average, 50% of visitors to national parks will participate in learning experiences at all surveyed sites.	Not Rated	Learning experiences have not been rated given the limited number of visitors that have experienced the park. The VIP survey conducted in Churchill in 2007 did not specifically target Wapusk visitors.
On average, 85% of visitors at surveyed locations are satisfied with their visit and on average, 50% of visitors at surveyed locations are very satisfied with their visit.	Not Rated	Visitor satisfaction has not been rated given the limited number of visitors that have experienced the park. The VIP survey conducted in Churchill in 2007 did not specifically target Wapusk visitors.
Optimize the number of visitors who report a personal connection to the park or site visited	Not Rated	New visitor experience opportunities have been piloted, as well as some unique programs; however, a large-scale visitor offer has yet to be launched. Personal connection is not directly measured.

TABLE 6:
Performance rating categories (Treasury Board)

Exceeded	More than 100% of the expected level of the performance was achieved
Met all	100% of the expected level of the performance was achieved
Mostly Met	80-99 % of the expected level of the performance was achieved
Somewhat Met	60-79% of the expected level of the performance was achieved
Not Met	Less than 60% of the expected level of the performance was achieved
Not Met	Less than 60% of the expected level of the performance was achieved
Not Rated	Data is not available or insufficient to assess the performance.



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Figure 31: Water/wastewater treatment unit powered by solar source at Broad River in Wapusk National Park.

5

Management Plan Results

A long period of time may be required to influence the state of an indicator through management actions. This chapter reports the results achieved by the park in completing its priority actions. Achieving these management actions contributes to maintaining or improving the state of the park (Chapter 3) and assists in achieving park-level performance expectations (Chapter 4).

5.1 SUCCESS STORY

Over the five-year period transitioning from operating under interim management guidelines to becoming a fully operational national park, the most notable success story is engaging the research community to support the delivery of the agency's strategic outcome and mandate.

When the Wapusk was created in 1996, there was already a considerable history of scientific research, dating back to the 1960s, on what are now park lands. A strategic goal of the park's first management plan was to promote partnerships with researchers to enhance Parks Canada's responsibility to maintain and monitor for ecological integrity. Today, data for select measures of the park's ecological integrity monitoring program originate from researchers.

Parks Canada has leveraged over \$2.1 million in research in the park over the past five years by investing approximately \$541,000 in two contribution agreements and one Memorandum of Understanding. Further, the Wapusk Management Board more recently approved permits totalling over \$1.7 million of research over the next three years. With high costs of operating in a large and remote park, Parks Canada is able to complete research and monitoring activities well beyond what it could do alone through such valuable collaborations with researchers.

From 2009-2011, Parks Canada accessed \$500,000 through the Arctic Research Infrastructure Fund by partnering with the Churchill Northern Studies Centre, and an additional \$250,000 was spent at two other research camps in the park. Infrastructure was developed and enhanced at four locations in the park that can now be used by Parks Canada staff, external researchers and, potentially, future visitors.

Collaboration with the research community also provides opportunities for public outreach and education. In January 2011, Parks Canada collaborated with the Churchill Northern Studies Centre to host a research symposium in Winnipeg that was attended by nearly 100 participants, received posters from 48 researchers, and featured research taking place in and around the park. Through this initiative, Parks Canada gains access to a broader pool of knowledge in and around the park and the symposium helps foster a spirit of shared stewardship with its collaborators. Further, such leadership by Parks Canada garners attention and attracts opportunities to collaborate with other significant partners such as Polar Bears International, the Toronto Zoo and the Assiniboine Park Zoo.

Collaborations with the research community also support development of new visitor experiences for the park, an important next step in the maturity of Wapusk. Through exit surveys with students participating in on-site field courses, Parks Canada is gaining valuable insights into the issues affecting the kinds of experiences that future visitors might have.

By embracing the long-standing commitment of the research community and fostering relationships, Parks Canada enjoys the integrated benefits of being better able to manage for ecological integrity, design practical yet inspiring new visitor experiences based on in-park students' experiences, and raise the profile and extend the promotional reach of this young but significant national park.

5.2 MANAGEMENT PLAN RESULTS

The current management plan for Wapusk was completed in 2007 before Parks Canada's transition to the use of targets to assess whether the actions taken contributed to maintaining or improving the state of the park. Consequently, goals (not targets) to achieve the Agency's Integrated Mandate Priorities are reported in this SoPR. In 2012, a new management plan will be written that follows the procedures specified in Parks Canada's Guide to Management Planning (Parks Canada 2008). Some of the most notable outcomes identified in the Wapusk National Park Management Plan (Parks Canada 2007a) are presented below in Table 7.

TABLE 7
Management Plan Results

PROGRAM AREA	GOALS	RESULTS
Managing for ecological integrity	Local residents, visitors and Canadians understand the need for and challenges of maintaining ecological integrity.	<ul style="list-style-type: none"> • Presentations in the Visitor Centre by staff and researchers focus on the ecological integrity of the park. • Staff provide interpretation to park visitors during annual tundra vehicle tours into Wapusk. • A research and monitoring report highlighting work in the park is produced annually, and articles are presented in the <i>Wapusk News</i> newsletter. • Tour operators have become engaged in maintaining ecological integrity through the environmental assessment and new business licensing system. • Parks Canada continues its role as part of the Polar Bears International Youth Leadership Camp, providing park staff as leaders/facilitators.
	Planning and management of the park and adjacent Crown lands are integrated.	<ul style="list-style-type: none"> • Two people are appointed by the Province of Manitoba as provincial representatives on the Wapusk Management Board. • Wapusk staff works with staff from the Manitoba Conservation Data Centre to manage rare species information. • Manitoba has been consulted on complementary licensing approaches for business operations that would need to cross through the Churchill Wildlife Management Area in order to reach and operate in Wapusk. • One Parks Canada staff member sits on the York Factory Resource Management Board.

TABLE 7

Management Plan Results

PROGRAM AREA	GOALS	RESULTS
A place of historical and cultural significance	The historical and cultural resources of the park are protected.	<ul style="list-style-type: none"> • Park staff has received cultural resource training. • Park staff is engaged in monitoring cultural resources and protecting these sites.
	The interpretation of the cultural resources links past and present occupation of the land by Aboriginal and non-Aboriginal people.	<ul style="list-style-type: none"> • Staff provide interpretation on a limited basis with the University of Manitoba field course and pilot projects for new visitor activities. • Staff provide interpretation of the cultural resources in the park through the Visitor Centre.
Managing for visitors	Parks Canada, Province of Manitoba, Town of Churchill and First Nations co-operate to ensure all visitors to Churchill receive an educational, safe, authentic cultural experience and leave with a greater appreciation and respect for the region.	<ul style="list-style-type: none"> • The Wapusk Management Board has been actively involved in ongoing planning and management of visitor activities in the park. • Sub-committees were created to develop guidance for research into visitor facilities and economic models and to develop criteria for assessing business licence applications. • Manitoba is consulted on complementary licensing approaches for business operations needing to cross through the Churchill Wildlife Management Area to reach and operate in Wapusk. • Parks Canada has worked with licensed tour operators to provide interpretation to their guests and with researchers and others to offer a lecture series in Churchill.
	Parks Canada and aircraft operators cooperate to manage flight operations over Wapusk National Park to maintain ecological integrity and high quality visitor experiences.	<ul style="list-style-type: none"> • A working group developed draft standards for flights over Wapusk. • Various stakeholders have provided input into the standards which will be implemented in 2011. • Wapusk has been added to the Canada Flight Supplement and the park will be added to the Visual Flight Rules Navigation Chart during the next printing.

TABLE 7

Management Plan Results

PROGRAM AREA	GOALS	RESULTS
	<p>Licensing commercial operations follows Government of Canada and Parks Canada policies and implements Aboriginal economic development objectives.</p>	<ul style="list-style-type: none"> • The area of the park from the Owl River south is reserved for Aboriginal business development. • Development of a backcountry lodge in the park is reserved for Aboriginal businesses or public/Aboriginal partnerships. • Tourism Industry Association of Canada (TIAC) Canada's Code of Ethics and Guidelines for Sustainable Tourism and commitment to local and Aboriginal economic development are assessment criteria for business licenses. • To date, one license has been awarded through a request for proposal process.
	<p>Visitor safety is an integral component of activities and commercial tourism businesses in Wapusk National Park.</p>	<ul style="list-style-type: none"> • Parks Canada collaborates with the Province of Manitoba to update the polar bear safety brochure. • The polar bear safety plan is reviewed and updated annually. • Researchers and business operators must provide polar bear safety plans prior to working in the park. • Two multi-use facilities were constructed in 2008 and 2010 which will support safe and memorable experiences for future visitors.
<p>Managing partnerships</p>	<p>First Nations and residents of the region have a meaningful role in making decisions which affect the park.</p>	<ul style="list-style-type: none"> • The Wapusk Management Board meets on a regular basis and holds regular conference calls to discuss management issues, but achieving quorum to enable decision-making has been difficult. • Communications with the First Nations and Town of Churchill are good but protocols on official contact and procedures for regular communications must be formalized. • A media and stakeholder list has been developed. • Meetings with businesses operating in the park occur on an ongoing basis.
	<p>Parks Canada's responsibility for maintaining and monitoring ecological integrity in the park is enhanced through partnerships with researchers and brings science and traditional knowledge to the local residents and visitors.</p>	<ul style="list-style-type: none"> • Parks Canada provides funding for research and monitoring through contribution agreements with the Hudson Bay Project and the Churchill Northern Studies Centre and a Memorandum of Agreement with Environment Canada. • Parks Canada has hosted science symposiums to facilitate information exchange amongst researchers. The 2011 event was co-hosted with the Churchill Northern Studies Centre.

PROGRAM AREA	GOALS	RESULTS
	<p>Parks Canada's responsibility for maintaining and monitoring ecological integrity in the park is enhanced through partnerships with researchers and brings science and traditional knowledge to the local residents and visitors.</p>	<ul style="list-style-type: none"> • Parks Canada produces an annual report on research and monitoring activities in the park. • Personal interviews with First Nation community members are helping to integrate use of traditional knowledge. • Traditional local knowledge programs on Wapusk are delivered by local First Nation members to Youth Leadership Camp participants.
	<p>Strong relationships between tourism partners and Parks Canada are developed and sustained.</p>	<ul style="list-style-type: none"> • The Visitor Centre provides a strong presence for Parks Canada, serving as a site for visitors to learn more about the park, frequently offered as a host site for visiting dignitaries to Churchill all while continuing its original role as a working train station. • Parks Canada is working with licensed tour operators to have an increased role in providing interpretation to guests. • Parks Canada has partnered with Polar Bears International for their annual Youth Leadership Camp by having staff participate as a group leader. • Parks Canada is a member of Destination Churchill, a Destination Marketing Organization.
<p>Our land, our stories</p>	<p>The history of the country is written on the land. The success in the presentation of this heritage can be measured by the number of visitors at the Visitor Centre, the increased number of tour guides who stop at the Centre and feedback from the public.</p>	<ul style="list-style-type: none"> • Parks Canada facilitated a hospitality training session for the tourism industry in Churchill in 2009. • Geocaching sites focusing on various themes for the park were created in the Churchill region. • Wapusk Youth Leadership Camp is focussed on reconnection to the land and incorporates traditional local knowledge programs delivered by local First Nation members. • Special presentations are conducted by park staff and research partners during peak tourist seasons. • Visitors learn about Wapusk through exhibits at the Visitor Centre or tours by licensed tour operators. • Wapusk has been featured in several national and international films, print and interview programs (notably Oasis - A Park for all Seasons) and news spots during the Vancouver Winter Olympics.

6

Key Issues

The key issues highlighted below conclude the State of the Park Report, and will be used to inform the review of the Wapusk National Park Management Plan. The issues range from those that Parks Canada has an ability to influence to those that are beyond the influence of the Agency. Taken from the assessments made in this report, the key issues are as follows:

Expanding Habitat Impacts by Lesser Snow Geese Affects other Wildlife

The increased numbers of lesser snow geese that rely on the habitat in Wapusk as a stopover during both the northward and southward migration are over-grazing and having a negative impact on the ecological integrity of the park. The number of nesting pairs of lesser snow geese has increased from approximately 2,500 in the 1960's to over 50,000 pairs in 2010. The area severely impacted by lesser snow goose foraging has increased over time totalling 9,146 ha as of 2008 and degraded habitat is not expected to recover for many decades. Soil is susceptible to erosion once the vegetation is removed and, as moisture evaporates, soil salinity increases resulting in the die-off of salt intolerant plants. Shorebirds and passerine species; such as the savannah sparrow, that utilize the affected habitat for nesting and foraging are negatively impacted as a result of overgrazing practices of lesser snow geese.

The Changing Arctic Climate

The ecological processes that drive Wapusk National Park and support its biodiversity are heavily influenced by the Hudson Bay. Over the past four decades, weather patterns have noticeably changed resulting in the break-up of sea ice on Hudson Bay advancing by over three weeks since the 1970s. The change in spring break-up has had implications for an iconic species; polar bears (Figure 32 and 33), as they depend on this habitat to hunt and eat enough during the winter and spring seasons to sustain them through now earlier, and longer periods on land. Research has shown a decline in abundance estimates, reproductive parameters and harvest rates, along with a significant decline in the body condition measure of adult females accompanied by cubs-of-the-year. Protected areas will be a key tool for climate change adaptation although many questions remain unanswered on how Wapusk will be affected by a changing Arctic climate. Situated in the transition zone between the boreal forest / tundra, marine and arctic landscapes, Wapusk has served as a laboratory for a variety of researchers. However, Wapusk has not reached its potential to support climate change research and in communicating this issue to all Canadians and people more broadly.



Figure 32: Polar bears at the shore edge.

Expensive and Challenging Access for Visitor Opportunities and Local Users

Wapusk National Park is a relatively remote park although well positioned only 40 kilometres east of the community of Churchill. The 2007 Management Plan strongly recommends that visitors use licensed tour operators for access to the park, but inquiries have also been made about access to the park by independent travellers. A harsh winter climate, significant safety concerns and extensive wetlands combine to make access to this park expensive and challenging. These conditions affect Parks Canada's ability to provide visitor opportunities for Canadians at a reasonable cost, level of comfort, and for periods longer than a simple fly-over. Similarly, for those wanting to develop a new tourism opportunity in Wapusk, the high costs of access and providing safety and basic guest amenities limit the returns on investment and make opportunities less attractive. Even for those First Nation and traditional local users associated with park establishment and who have had a long-standing relationship with what has now become Wapusk National Park, the environmental rigours of the region and the limited park infrastructure for security and shelter make it difficult for the people to maintain their vital connection to the land. Connecting a large number of Canadians and the local community to Wapusk remains a challenge in on the ground visitation and developing a strategic public outreach education program for the park's target audiences.



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Figure 33: Comparing hand to polar bear paw print.

7

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8

Glossary

Condition – Indicators and measures are assessed in a State of the Park Report in relation to desired conditions or objectives, if available. Four categories of condition are used: good, fair, poor and not rated. Condition rating categories for ecological integrity and cultural resources are described below.

DESCRIPTION OF RATING ASSESSMENTS FOR STATE OF ECOLOGICAL INTEGRITY		
Good		The ecosystem is presently secure, and contains a healthy composition and abundance of native species and biological communities, rates of change and supporting processes. No major active management actions are required.
Fair		The ecosystem is presently vulnerable and does not contain a completely healthy composition and abundance of native species and biological communities, rates of change and supporting processes. Active management actions may be required.
Poor		The ecosystem is impaired and does not contain a healthy composition and abundance of native species and biological communities, rates of change and supporting processes. Significant and ongoing management actions are required.
Not Rated		There is presently not enough information available to provide a condition for the indicator.

DESCRIPTION OF RATING ASSESSMENTS FOR STATE OF CULTURAL RESOURCES		
Good		Good, effective, or not currently impaired.
Fair		Fair, or minor to moderate impairment. Requires improvement.
Poor		Poor, ineffective, seriously impaired or a significant attribute missing (whether related to condition or selected management practices).
Not Rated		Not rated or not reported on because the information is not available.

Connection to place – Reflects the relevance and importance of protected heritage places to Canadians. The concept expresses the emotional, intellectual, and spiritual attachment-Canadians and visitors feel toward our natural and cultural heritage places. Parks Canada works to foster this sense of attachment through meaningful opportunities for enjoyment and learning provided on-site and through outreach education. Respecting, understanding, and facilitating the relationship between heritage places and Canadians, including Aboriginal peoples, visitors, partners and stakeholders help promote a shared sense of responsibility for heritage places and engage minds and hearts to support their protection and presentation now and for future generations.

Cultural Resource – A human work or a place that gives evidence of human activity or has spiritual or cultural meaning, and that has been determined to be of historic value. Cultural resources are distinguished from other resources in a park by virtue of their assigned historic value. This value derives from an association with an aspect or aspects of human history. Parks Canada may apply the term cultural resource to a wide range of resources in its custody including, but not limited to, cultural landscapes and landscape features, archaeological sites, structures, engineering works, artefacts and associated records.

Cultural Resource Management – Applies to all activities that affect cultural resources administered by Parks Canada, whether those activities pertain primarily to the care of cultural resources or to the promotion of public understanding, enjoyment and appropriate use of them.

Cultural Resources Values Statement (CRVS) – A strategic document that identifies cultural resources and their values for heritage places located outside national historic sites and managed by the Parks Canada Agency, and sets out objectives to protect cultural resources and present their values.

Ecological Integrity (EI) – Parks Canada defines ecological integrity as “An ecosystem has integrity when it is deemed characteristic for its natural region, including the composition and abundance of native species and biological communities, rates of change and supporting processes.” In plain language, ecosystems have integrity when they have their native components (plants, animals and other organisms) and processes (such as growth, reproduction, fire, and disease) intact (Parks Canada, 2000).

Ecosystem – A community of organisms, including humans, and its non-living environment interacting with one another and intimately linked by a variety of biological, chemical and physical processes. Ecosystems are often embedded with other ecosystems of larger scale.

Education – A key element of the Parks Canada mandate, the focus of education is to inspire long term support, involvement and stewardship in heritage protection and presentation by moving audiences along the engagement continuum – from awareness, to understanding, to appreciation, to support and involvement. Education activities are designed to reach Canadians at home, at leisure, at school and in their communities and includes outreach, interpretation as well as formal and informal learning.

Indicator – A nationally or bio-regionally consistent summary reporting statement that provides a comprehensive synopsis of each component of Parks Canada Agency’s mandate. It is based on a combination of data, measures and critical success factors that provide a clear message about current conditions and the change since the last measurement.

Isostatic Rebound - the rise of land masses that were depressed by the huge weight of ice sheets during the last glacial period, through a process known as isostasy.

Managed Area Rank – The term PCA applies to the final conservation status rank assigned to a particular species for a particular PCA site, park, or conservation area. Detailed assessments and managed area ranks:

MA1 - Critically Imperilled. Critically imperilled in the Managed Area because of extreme rarity or because some factor(s), such as steep declines, make the species especially vulnerable to extirpation from the Managed Area.

MA3 – Vulnerable. Vulnerable in the Managed Area; due to restricted range, relatively few populations or occurrences, recent and widespread declines, or other factors making it vulnerable to extirpation.

MAU – Unrankable. Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

Measure – Any data, surveys or other measurements that present conditions or trends.

Phenology - The scientific study of periodic biological phenomena, such as flowering, breeding, and migration, in relation to climatic conditions.

Public Outreach Education – Reaching Canadians at home, at leisure, at school and in their communities through effective and relevant learning opportunities designed to increase understanding and appreciation of the natural and historical heritage of Parks Canada places, and to encourage individuals and communities to support and become engaged in their protection and presentation.

Schedule 1 – A category in the Species at Risk Act, officially listing species that are classified as extirpated, endangered, threatened, and of special concern.




Species at Risk Act – A piece of Canadian federal legislation that became law in Canada on December 12, 2002, designed to meet one of Canada’s key commitments under the International Convention on Biological Diversity. The goal of the Act is to protect endangered or threatened organisms and their habitats. It also manages species that are not yet threatened but whose existence or habitat is in jeopardy.

Target – An aim or objective set by managers and to be achieved within a specified time frame.

Thermokarst – Topography in which the eventual melting of permafrost has produced hollows, hummocks, etcetera; reminiscent of karst.

Threshold – The level of an indicator or measure that represents a good (green), fair (yellow) or poor (red) condition. It represents the point of transition between the three levels of condition on which the Agency reports.

Trend – Four categories are used to denote current trends of indicators and measures (improving, stable, deteriorating, not rated)

	IMPROVING. The condition of the desired result has improved
	STABLE. The condition of the desired result is stable
	DECLINING. The condition of the desired result has declined
N/R	NOT RATED. Data is not available or insufficient to assess the trend of the ecosystem component.

Visitor – A person entering the park (including the Visitor Centre) for recreational, educational or cultural purposes.

Visitor Experience – The sum total of a visitor's personal interaction with heritage places and/or people that awakens their senses, affects their emotions, stimulates their mind and leaves them with a sense of attachment to these places.

Visitor Information Program (VIP) – A program implemented by Parks Canada to collect information about visitors to its national parks, national historic sites and national marine conservation areas. The program is designed to gather information on various performance and service indicators required for effective business and management planning.

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